Insurance Losses
Personal Injury Protection Coverages

PASSENGER CARS, VANS, PICKUPS, AND UTILITY VEHICLES

1980 - 1982 MODELS

Research Report HLDI I 82-1
September 1983

Highway Loss Data Institute
Watergate Six Hundred
Washington, D.C. 20037

Copyright © 1983 by the Highway Loss Data Institute

(Permission to quote from or to reproduce material from this publication is granted when due acknowledgement is made.)

ISSN 0734-9017

Highway Loss Data Institute

The membership of the Highway Loss Data Institute Board of Directors and the Technical Resource Committee represents insurance companies that are supplying data to HLDI. Financial support for HLDI is provided through the Insurance Institute for Highway Safety, which in turn is supported by most automobile insurers either directly or through their trade associations.

BOARD OF DIRECTORS

C. A. Bryan, Chairman
United Services Automobile Association

M. Albaum
Prudential Property and Casualty Insurance Company

D. H. Brown
Kemper Insurance and Financial Companies

H. Cameron
The Travelers Insurance Companies

G. L. Countryman
Liberty Mutual Insurance Company

D. Fergusson
Nationwide Mutual Insurance Company

D. Messmer
Government Employees Insurance Company

P. Simoneau
Aetna Life and Casualty

W. W. Sorenson
State Farm Mutual Automobile Insurance Company

J. S. Trees
Allstate Insurance Company

W. Haddon, Jr., *ex officio*
Highway Loss Data Institute

TECHNICAL RESOURCE COMMITTEE

J. S. Trees, Chairman
Allstate Insurance Company

M. Albaum
Prudential Property and Casualty Insurance Company

D. H. Brown
Kemper Insurance and Financial Companies

C. A. Bryan
United Services Automobile Association

R. O. Elder
Highway Loss Data Institute

D. Fergusson
Nationwide Mutual Insurance Company

G. C. Klingman
The Travelers Insurance Companies

A. Ledbetter
Government Employees Insurance Company

R. Muleski
Liberty Mutual Insurance Company

B. O'Neill
Highway Loss Data Institute

P. Simoneau
Aetna Life and Casualty

W. W. Sorenson
State Farm Mutual Automobile Insurance Company

Summary

This Highway Loss Data Institute (HLDI) report presents the frequency of claims for injuries to occupants of 1980, 1981, and 1982 model year passenger cars, vans, pickup trucks, and utility vehicles. Claim frequency results are shown separately for all medical claims and for those claims for which the medical losses exceeded $250, $500, and $1,000.

Principal Findings

Passenger Cars

- The cars with the best injury experience were predominantly large station wagons and regular four-door models. No regular two-door models were among the cars with the best injury experience. Twelve cars had at least one claim frequency result that was more than 30 percent better than the result for all cars combined (Table 2, page 5). Eleven of these cars with the best injury experience were manufactured in the United States, eight of them by General Motors.

- The cars with the worst injury loss experience were predominantly small two-door models. Seventeen cars had at least one claim frequency result that was more than 30 percent worse than the result for all cars combined (Table 3, page 5). Fifteen of these seventeen cars were imported models, all from Japan.

- Among the cars with the best injury experience, the Oldsmobile Custom Cruiser had the lowest overall claim frequency (44 percent below average) and the lowest frequency of claims exceeding $250 (48 percent below average). The Oldsmobile Cutlass station wagon had the lowest frequency of claims greater than $500 (42 percent below average) and the four-door Oldsmobile Delta 88 had the lowest frequency of claims greater than $1,000 (39 percent below average).

- Among the cars with the worst injury loss experience, the two-door Datsun 210 had the highest overall injury claim frequency (51 percent above average). It also had the highest frequency of claims exceeding $250, $500, and $1,000.

- In general, as car size decreased injury claim frequencies increased (Figure 1, page 12).

Vans, Pickups, Utility Vehicles

- Vans, pickups, and utility vehicles as a group had better injury results than the average results for passenger cars.

- Large and intermediate utility vehicles and standard-sized pickups had the best injury experience, ranging from about half to two-thirds the average for passenger cars (Figure 2, page 14).

- Small utility vehicles, a group dominated by the Jeep CJ-5 and CJ-7 models, had the worst injury experience.

- The Ford F-250, Chevrolet C20, and Chevrolet K20, all standard-sized pickups, and the Jeep Wagoneer had overall injury claim frequencies approximately one-half the all-passenger-car result.

- The Subaru Brat had the worst injury experience of all pickups reported. The Jeep CJ-5 had the worst results of all utility vehicles.

- Injury claim frequencies were closely related to vehicle size for pickup trucks and utility vehicles with the larger vehicles having lower claim frequencies.

Table of Contents

Page

Summary v

List of Figures vii

List of Tables viii

Introduction 1

Results and Discussion 3

Passenger Cars 3

Vans, Pickups, and Utility Vehicles 13

Appendix A - Specifications of Injury Coverages 17

Appendix B - Method of Data Analysis 18

Appendix C - Definitions 21

Appendix D - Vehicle Series Designation 23

Part A: Passenger Cars 23

Part B: Vans, Pickups, and Utility Vehicles 27

List of Publications 28

List of Figures

Page

Figure 1 Personal Injury Protection Coverages, Relative Claim Frequencies, 1980 - 1982 Model Year Passenger Cars 12

Figure 2 Personal Injury Protection Coverages, Relative Claim Frequencies, 1980 - 1982 Model Year Vans, Pickups, and Utility Vehicles 14

List of Tables

Page

Table 1 Personal Injury Protection Coverages, Claim Frequencies by Model Year and Size of Claim 3

Table 2 1980 - 1982 Passenger Cars With The Best Injury Loss Experience, Relative Injury Claim Frequencies - Personal Injury Protection Coverages 5

Table 3 1980 - 1982 Passenger Cars With The Worst Injury Loss Experience, Relative Injury Claim Frequencies - Personal Injury Protection Coverages 5

Table 4 Relative Claim Frequency By Size of Claim, Personal Injury Protection Coverages, 1980 - 1982 Model Year Passenger Cars 6

Table 5 Relative Claim Frequency By Size of Claim, Personal Injury Protection Coverages, 1980 - 1982 Model Year Vans, Pickups, and Utility Vehicles 15

Introduction

The Highway Loss Data Institute (HLDI) is a nonprofit, public service organization that gathers, processes, and publishes insurance data concerned with human and economic losses associated with motor vehicle use, especially with the ways such losses vary among different kinds of vehicles.

This report compares the frequencies of claims for injuries to occupants of 1980 through 1982 model year passenger cars, vans, pickup trucks, and utility vehicles. In addition to the frequencies of all claims, separate claim frequencies are given for claims for which the medical payments exceeded certain dollar amounts — $250, $500, and $1,000. The results are given for individual vehicle series as well as for various vehicle groupings based on body style and vehicle size.

In calculating injury claim frequencies, all injuries in a crash-involved car resulting in claims for medical expenses made under personal injury protection insurance coverages are counted as a single claim. A description of these first-party coverages, which principally insure against medical losses to occupants of the insured cars themselves, is given in Appendix A. The data analysis methods used in the preparation of this report are detailed in Appendix B. Definitions are given in Appendix C, and Appendix D contains a complete list of the vehicles which appear in this report. The data used were supplied by ten insurers: Aetna, Allstate, GEICO, Kemper, Liberty Mutual, Nationwide, Prudential, State Farm, Travelers, and USAA.

This report is based on injury coverages and injury claims involving 1980 through 1982 models in the period from their introductions through December 1982. It does not include the results for vehicles discontinued prior to the 1982 model year.

It is intended that the dissemination of this and other HLDI reports will contribute to research into ways for reducing vehicle-related damage to people and property and provide the public with information relating to the differences in the crash damage produced by different kinds of vehicles.

Results and Discussion

This report presents injury claim frequency results for 1980-1982 model year vehicles. Results are presented in two sections, the first summarizing the results for passenger cars and the second for vans, pickup trucks, and utility vehicles. The frequency of all claims (paid and pending) and the frequencies of claims whose medical payments exceed $250, $500, and $1,000 are shown for those vehicles with sufficient exposure.* The results based on the larger medical claims indicate the frequency of occurrence of injuries of increasing severity.

Each claim frequency result is presented in relative terms, with 100 representing the claim frequency for *all passenger cars combined* in each claim size category.

The relative injury experience of particular vehicles does not change substantially from model year to model year providing that the basic design of the vehicle remains essentially unchanged. For this reason and because substantial amounts of exposure are needed to produce reliable injury claim frequency results, the data for model years 1980 through 1982 were combined for those vehicles whose basic designs remained unchanged. Vehicle series which were discontinued or redesigned prior to 1982 (such as the Volkswagen Dasher and the Pontiac LeMans, both produced through model year 1981) are not included in the report. New vehicle introductions (such as the Dodge Aries in model year 1981 and the Chevrolet Cavalier in 1982) are included. For each vehicle series and each vehicle subgroup, a separate relative claim frequency was calculated for each model year. The aggregated result was then obtained by weighting these relative claim frequencies by the applicable exposure for each model year. For additional explanation of this procedure, see Appendix B.

Passenger Cars

The total exposure amassed by passenger cars of the three model years included in this report amounted to over five million insured vehicle years. Table 1 presents the claim frequencies by size of claim for each model year. It shows that the frequencies of claims decreased rapidly with increasing medical costs. The frequency of claims exceeding $250 was about one-half of the overall claim frequency, the frequency of claims exceeding $500 was less than one-third the overall frequency, and the frequency of claims greater than $1,000 was approximately one-fifth the overall frequency.

TABLE 1

Personal Injury Protection Coverages
Claim Frequencies by Model Year and Size of Claim

Model Year	Total Exposure (Insured Vehicle Years)	Claim Frequencies Per 1,000 Insured Vehicle Years			
		All Claims	> $250	> $500	> $1,000
1982	675,769	19.0	8.6	5.9	3.6
1981	1,846,439	18.2	8.7	6.0	3.9
1980	2,499,941	17.2	8.1	5.7	3.7

*The exposure thresholds for reporting results were 5,000 insured vehicle years for the "all" results, 10,000 years for the greater-than-$250 results, 15,000 years for the greater-than-$500 results, and 25,000 years for the greater-than-$1,000 results. The results shown in this report were standardized to remove the effects due to differences in the mix of operator age group among different vehicles. Standardizing for this non-vehicle factor ensures that its mix is the same for each result. It should be noted that other non-vehicle factors could vary among different vehicles and that any effects resulting from such factors have not necessarily been eliminated from the results presented in this report. The standardization procedure is described in detail in Appendix B.

The total dollars paid out, however, were dramatically influenced by the more expensive claims. For example, claims exceeding $250, while representing less than half of all claims, accounted for 95 percent of the total dollars for medical payments. Claims exceeding $500 accounted for 90 percent of the total dollars, and claims over $1,000 accounted for more than 80 percent of the total dollars.

Table 2 summarizes the individual 1980 through 1982 models with the best injury loss experience. Any individual series whose claim frequency was more than 30 percent better (a relative claim frequency of less than 70) than the all-car result for any of the claim size categories is listed. The cars are ranked in increasing order of their overall relative claim frequency. Each individual relative claim frequency result which was less than 70 is shown in bold print.

There are 12 vehicle series listed in Table 2; these are the cars with at least one claim frequency result that was more than 30 percent better than average. These cars had the best injury loss experience among the 146 vehicle series from model year 1980 through 1982 with sufficient exposure to be summarized in the more detailed Table 4. There are five regular four-door models, five station wagons, and two specialty models among the cars with the best injury loss experience, most of them large cars. There are no regular two-door models on the list. All but one of the 12 models were manufactured in the United States, eight of them by General Motors.

The Oldsmobile Custom Cruiser, a large station wagon, had the lowest overall relative claim frequency (56) and the lowest relative frequency (52) of claims exceeding $250. The Oldsmobile Cutlass station wagon had the lowest relative frequency (58) of claims greater than $500. Of the cars with sufficient exposure to report a result for claims exceeding $1,000, the four-door Oldsmobile Delta 88 had the lowest relative claim frequency (61).

It should be noted that there are vehicle series which had lower overall claim frequencies than some of the cars listed in Table 2, but these did not have relative claim frequencies of less than 70 for any of the claim size categories. The results for these cars are shown in Table 4.

Table 3 summarizes in similar fashion the 1980 through 1982 models with the worst injury loss experience. Any individual series whose claim frequency was more than 30 percent worse (a relative claim frequency of more than 130) than the all-car result for any of the claim size categories is listed. Cars are listed in decreasing order of their overall relative claim frequency, and results greater than 130 are shown in bold print.

There are 17 cars listed in Table 3, most of them small, regular two-door models. There are no station wagons on the list of cars with the worst injury loss experience. All but two of the cars in Table 3 are imported models, all of them from Japan.

The two-door Datsun 210 had the highest overall relative claim frequency (151), more than 50 percent higher than the result for all cars combined. This same model had by far the highest frequencies of claims exceeding $250, $500, and $1,000.

Table 4 presents relative injury claim frequency results for all of the 1980 through 1982 models with sufficient exposure. Results are shown for individual series and for each body style-car size group. The individual series results in Table 4 are listed within each group in ascending sequence of their overall relative claim frequencies.

The results in Table 4 indicate that, in general, cars with smaller wheelbases had higher injury losses than cars with larger wheelbases. Table 4 also shows that there were large differences in the loss experience of cars in the same body style and car size categories. For example, the overall relative claim frequencies for large specialty models ranged from a low of 62 for the Oldsmobile Toronado to a high of 109 for the Dodge Mirada, a difference of more than 75 percent.

Figure 1 (page 12) shows the overall relative claim frequencies by body style and car size group. There is a clear pattern of improving loss experience in each body style group associated with increasing car size. Station wagons had the lowest overall injury claim frequencies in each size class, and four-door models consistently had lower claim frequencies than two-door models of the same size.

(Text continues on page 13)

TABLE 2

1980-1982 Passenger Cars With the Best Injury Loss Experience
Relative Injury Claim Frequencies — Personal Injury Protection Coverages

Make and Series	Exposure	Relative Claim Frequencies By Size of Claim			
		All	>$250	>$500	>$1,000
Oldsmobile Custom Cruiser	11,005	56	52		
Oldsmobile Ninety-Eight-4 Dr.	35,773	61	73	72	71
Oldsmobile Toronado	24,494	62	69	70	
Buick LeSabre-4 Dr.	35,341	63	62	68	68
Ford LTD-S.W.	11,320	63	71		
Cadillac DeVille-4 Dr.	36,324	63	71	78	88
Oldsmobile Delta 88-4 Dr.	63,058	64	64	64	61
Oldsmobile Cutlass-S.W.	22,347	66	59	58	
Volvo 245-S.W.*	5,409	66			
Mercury Marquis-4 Dr.	21,233	68	68	70	
American Eagle-S.W.	15,228	73	72	69	
Oldsmobile Cutlass-4 Dr.	108,146	75	69	68	67

Of these 12 cars, all are U.S.-manufactured except the Volvo 245 station wagon.

*1981 and 1982 models only

TABLE 3

1980-1982 Passenger Cars With the Worst Injury Loss Experience
Relative Injury Claim Frequencies — Personal Injury Protection Coverages

Make and Series	Exposure	Relative Claim Frequencies By Size of Claim			
		All	>$250	>$500	>$1,000
Datsun 210-2 Dr.*	29,875	151	169	174	176
Dodge Challenger	8,849	149			
Toyota Corolla-2 Dr.*	53,534	141	148	144	139
Pontiac T1000-2 Dr.*	7,644	141			
Plymouth Sapporo	8,849	140			
Toyota Corolla Tercel-2 Dr.	78,693	139	134	131	131
Datsun 310-4 Dr.*	7,326	137			
Subaru DL-2 Dr.*	7,475	137			
Datsun 210-4 Dr.*	5,955	136			
Datsun 200 SX	63,387	135	134	140	143
Datsun 310-2 Dr.*	20,869	135	130	130	
Plymouth Champ-2 Dr.	34,859	132	146	142	141
Dodge Omni-2 Dr.	42,744	130	131	134	137
Toyota Celica	124,352	129	132	137	135
Toyota Starlet*	11,883	128	135		
Toyota Corolla-4 Dr.*	20,002	128	134	140	
Honda Prelude	35,736	125	128	134	138

Of these 17 cars, all are Japanese imports except the two-door models of the Dodge Omni and Pontiac T1000.

*1981 and 1982 models only

TABLE 4

Relative Claim Frequency By Size of Claim
Personal Injury Protection Coverages — 1980-1982 Models

Years	Make	Series	Exposure	Size of Claim			
				All	>$250	>$500	>$1000
80-82	**ALL**	**ALL**	**5022149**	**100**	**100**	**100**	**100**
TWO-DOOR MODELS							
80-82	**Small Subcompact**		**680122**	**124**	**124**	**122**	**121**
81-82	Volkswagen	Rabbit	23299	94	85	84	
80-82	Volkswagen	Scirocco	16648	96	99	103	
81-82	Mazda	GLC	13597	107	97		
81-82	Ford	Escort	60644	112	110	107	103
81-82	Subaru	Standard	7311	112			
81-82	Mercury	Lynx	20933	114	112	110	
80-82	American	Spirit Liftback	42209	116	108	103	104
80-82	Honda	Civic	83868	118	113	114	107
81-82	Toyota	Starlet	11883	128	135		
80-82	Chevrolet	Chevette	135685	128	126	122	118
80-82	Dodge	Colt	36462	129	128	125	129
80-82	Plymouth	Champ	34859	132	146	142	141
80-82	Datsun	200SX	63387	135	134	140	143
81-82	Datsun	310	20969	135	130	130	
81-82	Pontiac	T1000	7644	141			
81-82	Toyota	Corolla	53534	141	148	144	139
81-82	Datsun	210	29875	151	169	174	176
80-82	**Subcompact**		**605858**	**125**	**125**	**126**	**124**
81-82	American	Eagle 50 Liftback	5743	78			
81-82	Dodge	Aries	17085	97	99	100	
82	Honda	Accord	9129	103			
81-82	Plymouth	Reliant	21334	106	104	103	
81-82	Mazda	626	9363	112			
80-82	Mercury	Capri	42069	117	110	110	108
80-82	Ford	Mustang	163564	123	126	124	125
80-82	Plymouth	Horizon	52398	127	123	121	113
80-82	Toyota	Celica	124352	129	132	137	135
80-82	Dodge	Omni	42744	130	131	134	137
81-82	Subaru	DL	7475	137			
80-82	Toyota	Corolla Tercel	78693	139	134	131	131
80-82	Plymouth	Sapporo	8849	140			
80-82	Dodge	Challenger	8849	149			

(See footnotes on page 11)

TABLE 4

Relative Claim Frequency By Size of Claim
Personal Injury Protection Coverages — 1980-1982 Models

Years	Make	Series	Exposure	Size of Claim			
				All	>$250	>$500	>$1000
TWO-DOOR MODELS (Continued)							
80-82	**Small Compact**		**330152**	**98**	**94**	**92**	**95**
80-82	Buick	Skylark	54527	91	85	83	86
81-82	Ford	Granada	7790	91			
80-82	Oldsmobile	Omega	27634	93	90	81	80
80-82	Ford	Futura	59806	96	94	95	102
82	Pontiac	J2000	6011	98			
80-82	Chevrolet	Citation	106353	98	92	89	88
80-82	Pontiac	Phoenix	31050	104	93	91	91
82	Chevrolet	Cavalier	8841	120			
80-82	Mercury	Zephyr	14068	122	120		
80-82	**Compact**		**414226**	**90**	**93**	**93**	**95**
80-82	Oldsmobile	Cutlass	215916	87	90	90	93
80-82	American	Eagle 30	5269	92			
80-82	American	Concord	16789	94	88	89	
80-82	Buick	Regal	176251	95	97	97	99
80-82	**Large**		**99004**	**82**	**89**	**95**	**96**
80-82	Ford	LTD	13832	73	75		
80-82	Oldsmobile	Ninety Eight	8907	78			
80-82	Oldsmobile	Delta 88	32158	78	88	93	98
80-82	Chevrolet	Caprice	13099	83	85		
80-82	Buick	Le Sabre	18133	86	91	101	
80-82	Buick	Electra	8114	97			

(See footnotes on page 11)

TABLE 4

Relative Claim Frequency By Size of Claim
Personal Injury Protection Coverages — 1980-1982 Models

Years	Make	Series	Exposure	Size of Claim			
				All	>$250	>$500	>$1000
FOUR-DOOR MODELS							
80-82	**Small Subcompact**		**115914**	**110**	**109**	**110**	**114**
81-82	Volkswagen	Jetta	6033	86			
81-82	Volkswagen	Rabbit	31195	90	84	81	81
81-82	Mazda	GLC	9085	106			
82	Ford	Escort	10059	107	114		
81-82	Honda	Civic	16325	107	105	110	
81-82	Toyota	Corolla	20002	128	134	140	
81-82	Datsun	210	5955	136			
81-82	Datsun	310	7326	137			
80-82	**Subcompact**		**464220**	**107**	**102**	**100**	**101**
82	Honda	Accord	10682	79	77		
81-82	Mazda	626	14094	87	76		
81-82	Plymouth	Reliant	28991	95	94	82	84
81-82	Dodge	Aries	22336	101	98	101	
80-82	Dodge	Omni	54817	104	97	91	91
81-82	Toyota	Corona	6803	105			
80-82	Plymouth	Horizon	73375	109	100	102	103
80-82	Chevrolet	Chevette	195641	113	107	104	103
81-82	Toyota	Corolla Tercel	17494	117	118	116	
81-82	Subaru	DL	11480	118	126		
81-82	Pontiac	T1000	11309	121	128		
80-82	**Small Compact**		**543695**	**89**	**85**	**82**	**81**
82	Oldsmobile	Ciera	5308	74			
82	Buick	Century	5360	75			
81-82	Ford	Granada	16843	76	72	70	
81-82	Toyota	Cressida	8816	82			
80-82	Oldsmobile	Omega	50051	82	71	70	70
80-82	Buick	Skylark	96096	84	81	81	81
80-82	Chevrolet	Citation	180029	85	78	74	71
80-82	Pontiac	Phoenix	50502	88	82	84	83
81-82	Volvo	244	8629	92			
81-82	Mercury	Cougar	8865	98			
82	Chevrolet	Cavalier	8024	104			
80-82	Ford	Futura	63936	106	102	94	94
80-82	Datsun	810	9182	110			
80-82	Mercury	Zephyr	18068	118	112	116	

(See footnotes on page 11)

TABLE 4

Relative Claim Frequency By Size of Claim
Personal Injury Protection Coverages — 1980-1982 Models

Years	Make	Series	Exposure	Size of Claim			
				All	>$250	>$500	>$1000
FOUR-DOOR MODELS (Continued)							
80-82	**Compact**		**225190**	**82**	**80**	**79**	**80**
82	Buick	Regal	5446	72			
80-82	Oldsmobile	Cutlass	108146	75	69	68	67
80-82	American	Eagle 30	5028	78			
80-82	Chevrolet	Malibu	79731	89	91	90	92
80-82	American	Concord	18735	102	103	99	
80-82	**Large**		**305806**	**70**	**74**	**76**	**76**
80-82	Oldsmobile	Ninety Eight	35773	61	73	72	71
80-82	Buick	Le Sabre	35341	63	62	68	68
80-82	Oldsmobile	Delta 88	63058	64	64	64	61
80-82	Mercury	Marquis	21233	68	68	70	
82	Chrysler	New Yorker	5370	71			
80-82	Buick	Electra	24686	72	76	88	
80-82	Ford	LTD	35570	73	82	84	85
80-82	Chevrolet	Caprice	51139	80	85	87	89
80-82	Chevrolet	Impala	26178	81	80	82	76
80-82	Dodge	Diplomat	7252	82			

(See footnotes on page 11)

TABLE 4

Relative Claim Frequency By Size of Claim
Personal Injury Protection Coverages — 1980-1982 Models

Years	Make	Series	Exposure	Size of Claim			
				All	>$250	>$500	>$1000
STATION WAGONS							
80-82	**Small Subcompact**		**125120**	**94**	**90**	**87**	**85**
81-82	Mercury	Lynx	10062	77	76		
81-82	Ford	Escort	38339	86	83	81	76
81-82	Honda	Civic	11430	88	79		
81-82	Toyota	Corolla	14983	95	95		
80-82	Mazda	GLC	11278	97	87		
80-82	Datsun	210	37521	108	103	103	101
80-82	**Subcompact**		**63577**	**91**	**83**	**84**	**81**
81-82	Dodge	Aries	14462	84	79		
81-82	Plymouth	Reliant	19049	88	72	79	
81-82	Subaru	DL 4WD	10957	97	93		
81-82	Subaru	DL	15718	99	100	96	
80-82	**Small Compact**		**20633**	**81**	**78**	**79**	
81-82	Volvo	245	5409	66			
82	Chevrolet	Cavalier	5124	88			
80-82	**Compact**		**93445**	**76**	**71**	**72**	**73**
80-82	Oldsmobile	Cutlass	22347	66	59	58	
80-82	American	Eagle 30	15228	73	72	69	
80-82	Chevrolet	Malibu	40304	76	72	75	76
80-82	American	Concord	12674	101	92		
80-82	**Large**		**55364**	**65**	**68**	**68**	**74**
80-82	Oldsmobile	Custom Cruiser	11005	56	52		
80-82	Ford	LTD	11320	63	71		
80-82	Chevrolet	Caprice	17245	70	74	76	
80-82	Chevrolet	Impala	8494	74			

(See footnotes on page 11)

TABLE 4

Relative Claim Frequency By Size of Claim
Personal Injury Protection Coverages — 1980-1982 Models

Years	Make	Series	Exposure	Size of Claim			
				All	>$250	>$500	>$1000
SPORTS & SPECIALTY							
80-82	**Small Subcompact**		**135332**	**114**	**120**	**122**	**124**
80-82	Volkswagen	Rabbit Convertible	6237	84			
80-82	Mazda	RX-7	37051	109	119	111	108
80-82	Datsun	280ZX	27944	112	118	121	130
82	Ford	EXP	13135	116	117		
80-82	Honda	Prelude	35736	125	128	134	138
80-82	**Subcompact**		**68805**	**100**	**110**	**115**	**116**
80-82	Chevrolet	Corvette	25891	95	109	117	114
80-82	Datsun	280ZX 2+2	11732	100	117		
81-82	BMW	320 I	7808	102			
82	Chevrolet	Camaro	12638	108	114		
82	Pontiac	Firebird	7485	116			
80-82	**Small Compact**		**39120**	**97**	**103**	**111**	**119**
80-82	Audi	5000	18589	87	94	103	
80-82	Toyota	Celica Supra	12375	109	112		
80-82	**Compact**		**342183**	**98**	**104**	**106**	**106**
80-82	Pontiac	Grand Prix	104646	92	97	102	97
80-82	Chevrolet	Monte Carlo	119292	100	103	104	106
80-82	Ford	Thunderbird	77664	104	116	118	117
80-82	Mercury	Cougar XR-7	29414	105	115	118	120
80-82	**Large**		**294382**	**79**	**89**	**93**	**96**
80-82	Oldsmobile	Toronado	24494	62	69	70	
80-82	Cadillac	De Ville 4D	36324	63	71	78	88
80-82	Cadillac	Seville	17717	71	75	82	
80-82	Buick	Riviera	31976	75	85	91	88
80-82	Cadillac	Brougham 4D	15580	75	83	86	
80-82	Lincoln	Town Car	14295	79	97		
80-82	Lincoln	Mark VI 2D	10897	80	93		
80-82	Cadillac	De Ville 2D	46575	83	93	100	103
80-82	Cadillac	Eldorado	35265	86	103	117	129
80-82	Lincoln	Mark VI 4D	8038	90			
80-82	Chrysler	Cordoba	27279	93	100	94	93
80-82	Dodge	Mirada	15826	109	112	106	

Footnotes for Table 4:

Results are standardized to the distribution:

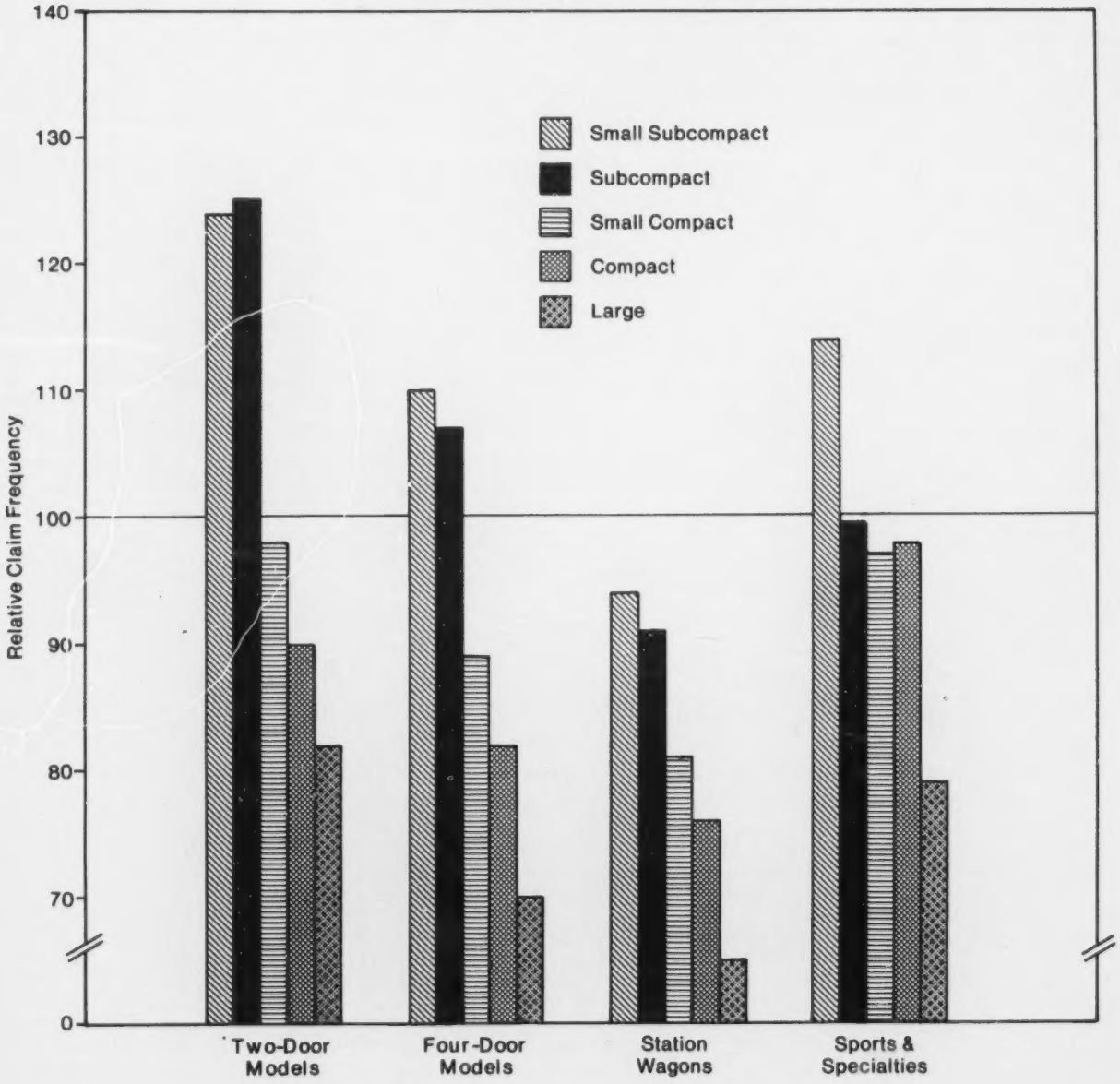
Youthful Operator	No Youthful Operator
10%	90%

Minimum exposure requirements for reporting:

All Claims	—	5,000 Vehicle Years
Claims > $250	—	10,000 Vehicle Years
Claims > $500	—	15,000 Vehicle Years
Claims > $1000	—	25,000 Vehicle Years

FIGURE 1

Personal Injury Protection Coverages
Relative Claim Frequencies
1980 - 1982 Model Year Passenger Cars



Vans, Pickups, and Utility Vehicles

This section presents injury claim frequency results for 1980-1982 model year vans, pickups, and utility vehicles. The results for pickups are divided into two groups, small pickups and standard pickups. Small pickups are defined as those whose curb weight is less than 3,000 pounds. The utility vehicle results are divided into three groups based on wheelbase; small utility vehicles are defined as those with wheelbases less than 100 inches, intermediate utility vehicles as those with wheelbases in the range 100 to 120 inches, and large utility vehicles as those with wheelbases exceeding 120 inches.

The results for vans, pickups, and utility vehicles are presented in relative terms with the value 100 corresponding to the result for *all passenger cars* combined in each claim size category. Thus, the value 71 for the overall relative claim frequency of all 1980-1982 model year vans indicates a claim frequency result that was 29 percent better than the result for all 1980-1982 model year passenger cars.

The total exposure for vans, pickups, and utility vehicles represented in the three model years included in this report amounted to nearly 800,000 insured vehicle years. Figure 2 displays these results by vehicle group and size of claim. As a group, large and intermediate utility vehicles and standard pickups had the best injury results, ranging from about half to two-thirds the result for all passenger cars. The small utility vehicles group was the only group with claim frequencies that were higher than the all-passenger car result for all claim size categories. (The Jeep CJ-5 and CJ-7 models contributed over 97 percent of the exposure to this group of vehicles.)

Table 5 presents relative injury claim frequency results for all of the 1980 through 1982 model year vans, pickups, and utility vehicles with sufficient exposure. Results are shown for individual series and for each vehicle group. Within each vehicle group, the individual series are listed in ascending sequence of their overall relative claim frequencies.

Table 5 shows that the vehicles with the lowest overall injury claim frequencies were the Ford F-250, Chevrolet C20, and Chevrolet K20, all standard-sized pickup trucks, and the Jeep Wagoneer, an intermediate-sized utility vehicle. Their claim frequencies were approximately one-half the all-passenger-car result.

Only two vehicles, the Subaru Brat and the Jeep CJ-5, had results substantially worse than those for all passenger cars.

For pickup trucks and utility vehicles, there was a definite relationship between vehicle size and injury claim frequency. Every injury claim frequency result reported for standard pickups was lower than any reported for small pickups; this was also true with respect to intermediate versus small-sized utility vehicles.

FIGURE 2

Personal Injury Protection Coverages
Relative Claim Frequencies
1980 - 1982 Model Year Vans, Pickups, and Utility Vehicles

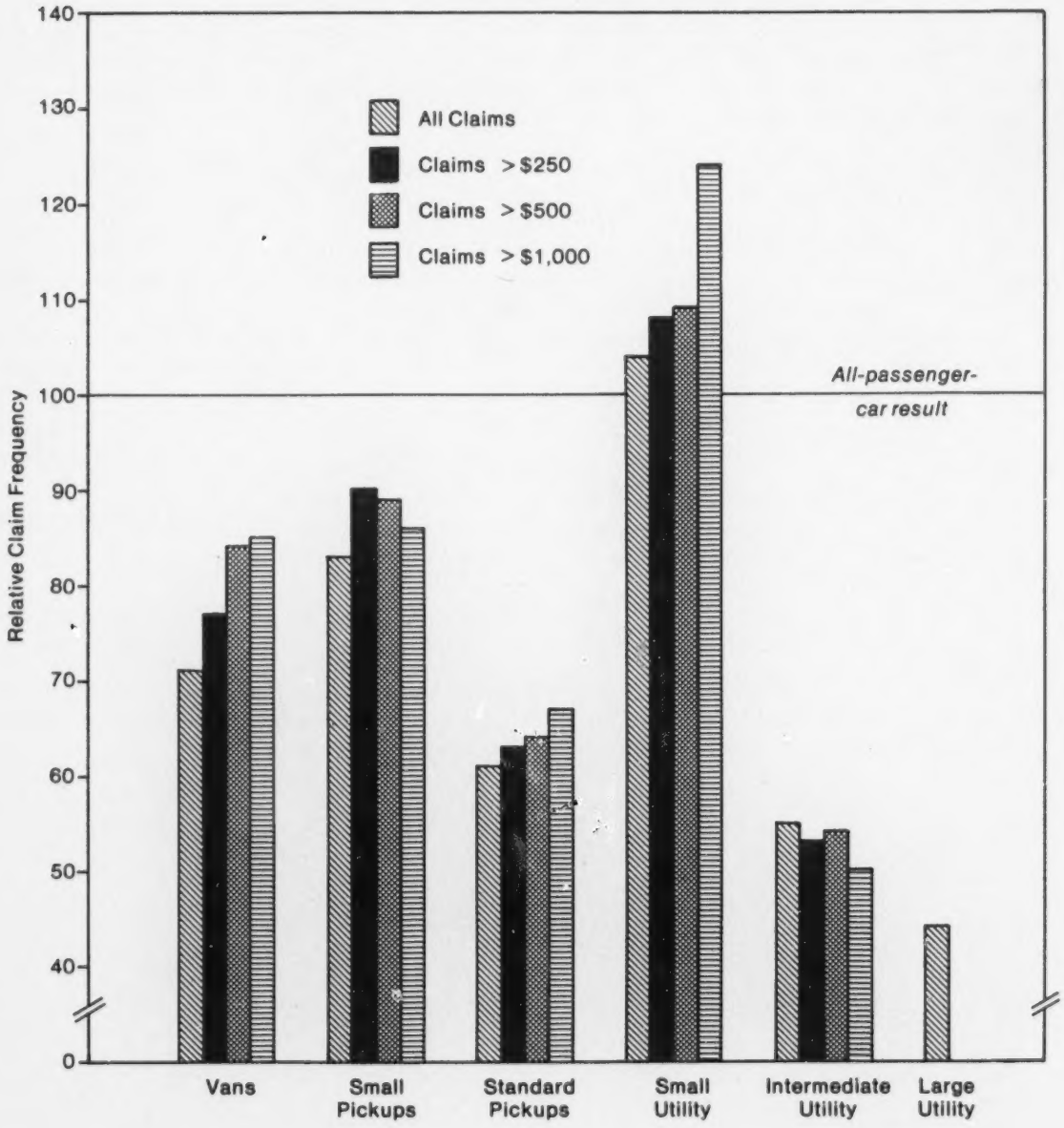


TABLE 5

Relative Claim Frequency By Size of Claim
Personal Injury Protection Coverages — 1980-1982 Models

Years	Make	Series	Exposure	Size of Claim			
				All	>$250	>$500	>$1000
VANS							
80-82	**All Vans**		**104019**	**71**	**77**	**84**	**85**
80-82	Ford	E-150 Club Wagon (1/2-3/4T)	5208	56			
80-82	Volkswagen	Vanagon	6286	61			
80-82	Ford	E-100 Econoline (1/2T)	8490	63			
80-82	Dodge	B250 (3/4T)	9375	68			
80-82	Ford	E-150 Econoline (1/2-3/4T)	19173	73	83	92	
80-82	Chevrolet	G10 Chevyvan (1/2T)	14235	80	8[illegible]		
80-82	Chevrolet	G20 Chevyvan (3/4T)	11310	81	9[illegible]		
80-82	Dodge	B150 (1/2T)	12696	84	85		
PICKUPS							
80-82	**Small Pickups**		**220149**	**83**	**90**	**89**	**86**
80-82	Datsun	Stretch	19821	70	88	85	
80-82	Ford	Courier Long Bed	17066	71	84	82	
80-82	Chevrolet	Luv 4WD	8736	72			
82	Chevrolet	S10	9810	79			
81-82	Datsun	King Cab	8225	80			
80-82	Toyota	Long Bed	26671	80	85	88	89
80-82	Datsun	Standard Bed	17038	81	88	88	
80-82	Chevrolet	Luv	13674	85	87		
80-82	Dodge	D-50	16688	86	93	90	
81-82	Volkswagen	Rabbit	6583	86			
80-82	Plymouth	Arrow	7186	88			
80-82	Toyota	Standard Bed	14255	91	101		
80-82	Toyota	Long Bed 4WD	10606	93	106		
80-82	Toyota	Standard Bed 4WD	11162	109	107		
80-82	Subaru	Brat	6568	122			
80-82	**Standard Pickukps**		**386099**	**61**	**63**	**64**	**67**
80-82	Ford	F-250 (3/4T)	10295	46	51		
80-82	Chevrolet	K20 (3/4T)	7914	50			
80-82	Chevrolet	C20 (3/4T)	10081	51	58		
80-82	Chevrolet	K10 (1/2T)	20513	56	53	53	
80-82	Ford	F-150 (1/2-3/4T)	56627	57	62	68	69
80-82	Ford	F-250 (3/4T) 4X4	7718	57			
80-82	Ford	F-150 (1/2-3/4T) 4X4	25045	57	62	59	60
80-82	Ford	F-100 (1/2T)	72241	60	59	59	61
80-82	Chevrolet	C10 (1/2T)	95856	66	70	73	79
80-82	GMC	C1500 (1/2T)	19701	66	72	65	
80-82	Chevrolet	El Camino	19459	66	66	63	
80-82	Dodge	D150 (1/2T)	23507	69	77	80	

(See footnotes on page 16)

TABLE 5

Relative Claim Frequency By Size of Claim
Personal Injury Protection Coverages — 1980-1982 Models

Years	Make	Series	Exposure	Size of Claim			
				All	>$250	>$500	>$1000
UTILITY VEHICLES							
80-82	**Small Utility Vehicles**		**32871**	**104**	**108**	**109**	**124**
80-82	Jeep	CJ-7	20119	99	98	101	
80-82	Jeep	CJ-5	12017	113	124		
80-82	**Intermediate Utility Vehicles**		**46904**	**55**	**53**	**54**	**50**
80-82	Jeep	Wagoneer	5106	51			
80-82	Ford	Bronco	19231	55	56	56	
80-82	Chevrolet	K10 Blazer (1/2T)	10894	59	49		
80-82	**Large Utility Vehicles**		**8192**	**44**			

Footnotes for Table 5:

Results are standardized to the distribution:

Youthful Operator	No Youthful Operator
10%	90%

Minimum exposure requirements for reporting:

All Claims	—	5,000 Vehicle Years
Claims > $250	—	10,000 Vehicle Years
Claims > $500	—	15,000 Vehicle Years
Claims > $1000	—	25,000 Vehicle Years

Appendix A
Specifications of Injury Coverages

Personal Injury Protection (PIP) Coverages

Personal injury protection coverages provide first-party insurance against medical and other types of losses in "no-fault" states.

The personal injury protection coverages reported in this study were based on data from the 19 states listed below.

Personal Injury Protection (PIP) Coverages
States Included

Colorado	Minnesota
Connecticut	New Jersey
Delaware	New York
Florida	North Dakota
Georgia	Oregon
Hawaii	Pennsylvania
Kansas	South Carolina
Kentucky	Texas
Maryland	Utah
Michigan	

Appendix B
Method of Data Analysis

Personal Injury Protection Coverages

Results in this report are based on "personal injury protection" (PIP) coverages which are provided in so-called no-fault states. These coverages were selected because they provide medical expense reimbursement to injured occupants of the insured vehicle.

Use of PIP insurance data to identify crashes involving injury has certain limitations because these data cannot provide information on all occupant injuries. This occurs when claims for injury costs are not made under PIP coverages because of the availability of other sources of medical expense reimbursements, such as bodily injury liability and/or health insurance coverages. Consequently, PIP claim frequencies do not include all of the crashes involving injury. This limitation should not distort comparisons among different vehicles.

Vehicle Description and Identification

The Vehicle Identification Numbers (VINs) of most new automobiles sold in the United States are individually unique numbers that contain, in coded form, detailed information as to each vehicle's make, model year, series,* and other distinguishing characteristics.

The very specific vehicle types for which results are presented in this report were derived from the VINs of the individual automobiles.

Only data with valid VINs were used for this report. Each VIN was decoded into a set of specific characteristics. For the purposes of this report the vehicle characteristics of primary concern were make, model year, series, body style, and wheelbase.

Exposure

Exposure, in terms of insured vehicle years, was computed for each individual vehicle from the coverage data. The total number of insured vehicle years for each vehicle series was then obtained by accumulating the exposure for all of the individual vehicles of that vehicle series.

For each vehicle series, the exposure was also computed for each operator age group — youthful operators and no youthful operators.*

Claim Frequency

Both pending and paid claims for an individual vehicle were first matched with its corresponding coverage data to ensure that the crash had occurred within an appropriate period of coverage for that vehicle. In every instance in which multiple claims were made for the same crash — e.g., when more than one occupant of the car incurred medical expenses — the claims were treated as a single injury claim in the calculation of claim frequencies. It should be noted that some medical expenses can sometimes be incurred even though the occupants are not injured. This can occur, for example, when precautionary medical examinations are undertaken even though no injuries are apparent or, in fact, found.

All injury claims involving medical expense reimbursements were used, together with the corresponding exposure, to cumpute the claim frequencies in terms of the number of claims per 1,000 insured vehicle years. The overall claim frequency results were computed using both paid and pending claims. In addition to the overall claim

*See Appendix C for definitions.

frequency results, separate claim frequency results were computed for claims in which the medical losses exceeded $250, $500, and $1,000. The latter three results provide indications of the extent to which particular cars are over- or under-involved in crashes resulting in more significant injuries. Claims involving non-medical losses only and claims settled without payments were not used. Thus, the claim frequencies represent the number of crashes per 1,000 insured vehicle years in which one or more injuries occurred resulting in medical expense claim payments under PIP insurance coverages.

Standardization

The losses for different vehicles can vary substantially in relation to certain non-vehicle factors. One important factor with which claim frequency varies is the operator age group; and the mix of operator ages can vary considerably among different vehicle types — so considerably that it could distort comparisons of results between vehicles if not taken into account.

Youthful operators have higher insurance claim frequencies than older drivers. Thus, if two vehicle types have different proportions of youthful operators, this difference, if not taken into consideration, would be sufficient to bias comparisons. To remove this effect for each vehicle type, the results for each vehicle type were weighted, using the values shown below, to produce a weighted average of the actual results for each operator age group. In this way the results for each vehicle type are based on the same mix, or distribution, of exposure for the two operator age groups.

Since the same weights are used for each vehicle type, the effects due to operator age group are present in equal amounts in the standardized results for each vehicle type. Therefore, to the extent that the age distributions within operator age group do not vary substantially for different vehicles, these effects can no longer bias comparisons among vehicles.

This standardization procedure is widely used in vital health statistics.* The basic principle of this standardization procedure is the introduction of a standard distribution of exposure for the different operator age groups.

Operator Age Group Weights

Youthful Operator	No Youthful Operator	Combined
0.1	0.9	1.0

Exposure Threshold For Reporting Results

A threshold of 5,000 insured vehicle years of exposure was selected for reporting the overall claim frequency results for vehicle size classes, subgroups, and individual vehicle series. Consequently, no results are presented in this report for any of the vehicle series with smaller amounts of exposure. In addition, different thresholds were used to determine whether the claim frequency results for medical losses exceeding the specified dollar amounts were published. In order for the claim frequency results for medical losses exceeding $250 to be published, at least 10,000 insured years of exposure were required; for medical losses of greater than $500, the minimum exposure was 15,000, and for medical losses exceeding $1,000, the minimum exposure was 25,000 insured vehicle years.

It should be kept in mind that, in general, the greater the exposure associated with a reported claim frequency, the more confidence can be placed in it.

---

* For example, see Armitage, P., *Statistical Methods in Medical Research*, Wiley, New York, 1971

Combining Results For More Than One Model Year

The relative injury loss experience of particular vehicles does not change substantially from model year to model year providing that the basic design of the vehicle remains essentially unchanged. For this reason and because substantial amounts of exposure are needed to provide reliable injury claim frequency results, the data for model years 1980 through 1982 were combined for those vehicles whose basic designs remained unchanged.

The aggregated model year result (R) for each vehicle series (i) was obtained by weighting the relative claim frequency for each model year (j) by the applicable exposure for each model year; that is,

$$R_i = \frac{\sum exp_{ij} \frac{f_{ij}}{F_j}}{\sum exp_{ij}} \cdot 100$$

where exp_{ij} = exposure for vehicle i for model year j,

f_{ij} = claim frequency for vehicle i for model year j,

and F_j = claim frequency for all passenger cars for model year j.

Example: Two-Door Honda Civic

	1982	1981	1980
Exposure (exp)	7,279	25,041	51,548
Claim Frequency (f)	23.1	21.0	20.5
Claim Frequency (F) - all cars	19.0	18.2	17.2

$$\text{Result} = \frac{7{,}279\left(\frac{23.1}{19.0}\right) + 25{,}041\left(\frac{21.0}{18.2}\right) + 51{,}548\left(\frac{20.5}{17.2}\right)}{7{,}279 + 25{,}041 + 51{,}548} \cdot 100 = 118$$

Appendix C
Definitions

Claim Frequency — The number of claims for a group of vehicles, divided by the exposure for that group; expressed as claims per one thousand insured vehicle years.

Exposure — The time interval an individual vehicle is insured. Exposure for a group of vehicles is expressed in units of insured vehicle years.

First-Party Coverage — An insurance coverage under which the policyholder collects compensation for his losses from his own insurer regardless of fault.

No-Fault Auto Insurance — An auto insurance plan in which each driver/owner accepts financial responsibility for some or all losses sustained by himself, pedestrians hit by him, and occupants of his own vehicle in return for which he enjoys some immunity from liability for losses to third-party persons.

Operator Age Group — The factor which distinguishes those vehicles whose rated driver is youthful from those vehicles whose rated driver is not youthful (see *Youthful Operator*).

Personal Injury Protection (PIP) Coverage — First-party no-fault coverage in which an insurer pays, within the specified limits, the medical, hospital, and other expenses of the insured, others in his vehicle, and pedestrians struck by him.

Rated Driver — The driver who, for insurance purposes, is considered to represent the greatest loss potential for the insured vehicle.

Vehicle Classifications — There are four vehicle classes, defined as follows:

1. ***Passenger Cars*** — There are four major body style groupings of passenger cars — regular two-door models, regular four-door models, station wagons, and sports or specialty models. Each body style group is further divided into size class subgroups as follows:

   Small Subcompact — Cars with wheelbases less than or equal to 96 inches

   Subcompact — Cars with wheelbases greater than 96 inches and less than or equal to 101 inches

   Small Compact — Cars with wheelbases greater than 101 inches and less than or equal to 106 inches

   Compact — Cars with wheelbases greater than 106 inches and less than or equal to 111 inches

   Large — Vehicles with wheelbases greater than 111 inches

2. ***Vans*** — Fully enclosed vehicles with either no hood or a very short hood, in which the engine is placed at least 50 percent behind the windshield. The driver's position is usually well forward, nearly beside the engine, usually within the forward 25% of the wheelbase. These vehicles are designed for cargo transport and are equipped with a right side cargo access door and rear doors. The cargo area is not separated from the passenger area — both are enclosed under the same roof. Some passenger vans are equipped with additional seats in the cargo area and usually have additional side windows also.

3. ***Pickups*** — Cargo-carrying vehicles, usually on a truck chassis, with an enclosed cab and a separate open cargo area. The open cargo area generally is a box with raised sides with an opening tailgate. There are also a small number of auto pickups which are similar to regular pickups except that they are built on a passenger car chassis. Pickups are further divided into two subgroups based on curb weight — small pickups (less than 3,000 pounds) and standard pickups (3,000 pounds or more).

4. ***Utility Vehicles*** — Vehicles built on a heavy-duty chassis capable of off-road use. They are of conventional construction with the driver behind the engine. The cargo and passenger areas are integral with the driver area. Many of these vehicles are equipped with soft or removable tops. Frequently, these vehicles are equipped with four-wheel drive. Utility vehicles are further divided into three subgroups based on wheelbase — small utility vehicles (less than 100 inches), intermediate utility vehicles (from 100 to 120 inches), and large utility vehicles (greater than 120 inches).

Vehicle Identification Number (VIN) — A code, variously comprising both numbers and letters; normally 8 to 17 characters in length, assigned to each vehicle by its manufacturer. The VIN uniquely identifies the vehicle within at least a ten-year time span and, in recent model year vehicles, almost always contains coding which identifies the make, series, model year, and other characteristics of each vehicle.

Vehicle Series — A name denoting a family of vehicles, within a make, with the same wheelbase and a degree of commonality in construction such as body, chassis, etc.

Youthful Operator — For the purposes of this report, all males (married or single) under 25 years of age and all unmarried females under 25 years of age.

Appendix D
Vehicle Series Designations

Part A: Passenger Cars

Make and Model		2-Door Model	4-Door Model	Station Wagon	Sports/ Specialty
Alfa Romeo**	GTV6				SS
	Spider Veloce				SS
American	Concord	C	C	C	
	Eagle	C	C	C	
	Eagle 50**	S			
	Eagle 50 Liftback**	S			
	Spirit	SS			
	Spirit Liftback	SS			
Audi	4000**	S	S		
	5000				SC
BMW**	320i				S
	528e				SC
	633 CSI				SC
	733i				C
Buick	Century*	SC	SC		
	Electra	L	L	L**	
	LeSabre	L	L	L**	
	Regal	C	C*	C*	
	Riviera				L
	Skyhawk*	SC	SC		
	Skylark	SC	SC		
Cadillac	Brougham-2 Dr. & 4 Dr.				L
	Cimarron*				SC
	DeVille-2 Dr. & 4 Dr.				L
	Eldorado				L
	Fleetwood Limousine				L
	Seville				L
Chevrolet	Camaro*				S
	Caprice	L	L	L	
	Cavalier*	SC	SC	SC	
	Celebrity*	SC	SC		
	Chevette	SS	S		
	Citation	SC	SC		
	Corvette				S
	Impala		L	L	
	Malibu		C	C	
	Monte Carlo				C
Chrysler	Cordoba				L
	Imperial**				L
	Le Baron*	S	S	S	
	Le Baron Convertible*				S
	New Yorker*		L		

(See footnotes on page 26)

Appendix D
Vehicle Series Designations
(Continued)

Part A: Passenger Cars (Continued)

Make and Model		2-Door Model	4-Door Model	Station Wagon	Sports/ Specialty
Datsun/Nissan	200 SX	SS			
	210	SS**	SS**	SS	
	280 ZX				SS
	280 ZX 2+2				S
	310**	SS	SS		
	810		SC	SC	
	Sentra*	SS	SS	SS	
	Stanza*	S	S		
DeLorean**	Delorean				SS
Dodge	400*	S	S		
	400 Convertible*				S
	Aries**	S	S	S	
	Challenger	S			
	Colt	SS	SS*		
	Diplomat		L		
	Mirada				L
	Omni	S	S		
Fiat	Spider 2000				SS
	Strada**	S	S		
	X 1/9				SS
Ford	Escort	SS**	SS*	SS**	
	EXP*				SS
	Futura	SC	SC		
	Granada	SC**	SC**	SC*	
	LTD	L	L	L	
	Mustang	S			
	Thunderbird				C
Honda	Accord*	S	S		
	Civic	SS	SS**	SS**	
	Prelude				SS
Isuzu**	T-Car/I-Mark	SS	SS		
Jaguar**	XJ6				L
Lancia**	Zagato				SS
Lincoln	Continental*				C
	Mark VI-2 Dr. & 4 Dr.				L
	Town Car				L

(See footnotes on page 26)

Appendix D
Vehicle Series Designations
(Continued)

Part A: Passenger Cars (Continued)

Make and Model		2-Door Model	4-Door Model	Station Wagon	Sports/ Specialty
Mazda	626**	S	S		
	GLC	SS**	SS**	SS	
	RX-7				SS
Mercedes Benz**	240D				C
	300CD				C
	300D				C
	300SD				L
	300TD				C
	380SEL				L
	380SL Coupe				S
Mercury	Capri	S			
	Cougar	SC**	SC**	SC*	
	Cougar XR-7				C
	LN7*				SS
	Lynx	SS**	SS*	SS**	
	Marquis	L	L	L	
	Zephyr	SC	SC		
Oldsmobile	Ciera*	SC	SC		
	Custom Cruiser			L	
	Cutlass	C	C	C	
	Delta 88	L	L		
	Firenza*	SC	SC		
	Ninety-Eight	L	L		
	Omega	SC	SC		
	Toronado				L
Peugeot**	504			L	
	505		C		
	604				C
Plymouth	Champ	SS	SS*		
	Gran Fury*		L		
	Horizon	S	S		
	Reliant**	S	S	S	
	Sapporo	S			
Pontiac	2000*	SC	SC	SC	
	6000*	SC	SC		
	Bonneville*		C	C	
	Firebird*				S
	Grand Prix				C
	Phoenix	SC	SC		
	T1000**	SS	S		

(See footnotes on page 26)

Appendix D
Vehicle Series Designations
(Continued)

Part A: Passenger Cars (Continued)

Make and Model		2-Door Model	4-Door Model	Station Wagon	Sports/ Specialty
Porsche	911 Coupe				SS
	924 Coupe				SS
	928 Coupe				S
Renault	18i**		S	S	
	Fuego*	S			
	Le Car**	SS	SS		
Saab**	900	S	S		
Subaru**	DL/GL(F)	S	S	S	
	DL/GL 4WD			S	
	Standard	SS			
	Standard 4WD	SS			
Toyota	Celica	S			SC
	Celica Supra				
	Corolla**	SS	SS	SS	
	Corolla Tercel	S	S**		
	Corona**		S	S	
	Cressida**		SC	SC	
	Starlet**	SS			
Volkswagen	Jetta**	SS	SS		
	Quantum*	S	S	S	
	Rabbit**	SS	SS		
	Rabbit Convertible				SS
	Scirocco	SS			
Volvo**	240	SC	SC	SC	
	260		SC		

SS - Small Subcompact-Wheelbase less than or equal to 96 inches
S - Subcompact-Wheelbase greater than 96 and less than or equal to 101 inches.
SC - Small Compact-Wheelbase greater than 101 and less than or equal to 106 inches.
C - Compact-Wheelbase greater than 106 and less than or equal to 111 inches.
L - Large-Wheelbase greater than 111 inches.

* 1982 Models Only

** 1981 and 1982 Models Only

Models contributing less than 100 insured vehicle years of exposure are not listed.

Appendix D
Vehicle Series Designations
(Continued)

Part B: Vans, Pickups, and Utility Vehicles

Vehicle Class	Make	Series
Vans	Chevrolet	G10 Chevyvan (1/2T)
		G20 Chevyvan (3/4T)
		G10 Sportvan (1/2T)
		G20 Sportvan (3/4T)
	Dodge	B150 (1/2T)
		B250 (3/4T)
		B150 Wagon/Bus (1/2T)**
		B250 Wagon/Bus (3/4T)**
	Ford	E-100 Club Wagon (1/2T)
		E-150 Club Wagon (1/2-3/4T)
		E-250 Club Wagon (3/4T)
		E-100 Econoline (1/2T)
		E-150 Econoline (1/2-3/4T)
		E-250 Econoline (3/4T)
	GMC	G1500 Rally Wagon (1/2T)
		G2500 Rally Wagon (3/4T)
		G1500 Vandura (1/2T)
		G2500 Vandura (3/4T)
	Plymouth	PB150 Voyager (1/2T)
		PB250 Voyager (3/4T)
	Volkswagen	Vanagon
Pickups	Chevrolet	C10 (1/2T)
		C20 (3/4T)
		El Camino
		K10 (1/2T)
		K20 (3/4T)
		Luv
		Luv Long Bed**
		Luv 4WD
		S10*
	Datsun	King Cab**
		King Cab 4WD**
		Standard Bed
		Standard Bed 4WD**
		Stretch
		Stretch 4WD**
	Dodge	D-50
		D-50 4WD*
		D150 (1/2T)
		D250 (3/4T)
		Rampage*
		W150 (1/2T)**
		W250 (3/4T)**
	Ford	Courier**
		Courier Long Bed
		F-100 (1/2T)
		F-150 (1/2-3/4T)
		F-150 (1/2-3/4T) 4WD
		F-250 (3/4T)
		F-250 (3/4T) 4WD

Vehicle Class	Make	Series
Pickups (Cont'd)	GMC	Caballero
		C1500 (1/2T)
		C2500 (3/4T)
		K1500 (1/2T)
		K2500 (3/4T)
		S15*
	Isuzu	Long Bed**
		Standard Bed**
		Standard Bed 4WD**
	Jeep/AMC	J10 (1/2 T)
		J20 (1/2-3/4T)
		Scrambler**
	Mazda	Long Bed
		Standard Bed
	Plymouth	Arrow
	Subaru	Brat
	Toyota	Long Bed
		Long Bed 4WD
		Standard Bed
		Standard Bed 4WD
	Volkswagen	Rabbit**
	Chevrolet	C10 Blazer (1/2T)
		C10 Suburban (1/2T)
		C20 Suburban (3/4T)
		K10 Blazer (1/2T)
		K10 Suburban (1/2T)
		K20 Suburban (3/4T)
	Dodge	AD150 Ramcharger (1/2T)
		AW150 Ramcharger (1/2T)
	Ford	Bronco
	GMC	C1500 Jimmy (1/2T)
		C1500 Suburban (1/2T)
		C2500 Suburban (3/4T)
		K1500 Jimmy (1/2T)
		K1500 Suburban (1/2T)
		K2500 Suburban (3/4T)
	Jeep AMC	Cherokee
		CJ-5
		CJ-7
		Wagoneer
	Toyota	Land Cruiser
		Land Cruiser S/W**

* 1982 Models Only
** 1981 and 1982 Models Only

List of Publications

Research reports published by the Highway Loss Data Institute are:

R72-1 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1972 Models*, June 1973.

R73-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1973 Models Compared with 1972 Models*, September 1973.

R73-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1973 Models*, March 1974.

R73-3 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1973 Models During Their First Two years*, December 1974.

R73-4 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1973 Models During Their First Three Years*, December 1975.

R74-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1974 Models*, May 1974.

R74-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1974 Models During Their First Year*, December 1974.

R74-3 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1974 Models During Their First Two Years*, December 1975.

R75-1 *Automobile Insurance Losses, Collision Coverages, Initial Results for 1975 Models*, July 1975.

R75-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1975 Models During Their First Year*, December 1975.

R76-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1976 Models*, June 1976.

R76-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1976 Models During Their First Year, 1975 Models During Their First Two Years, 1974 Models During Their First Three Years*, December 1976.

R77-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1977 Models*, June 1977.

R77-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1977 Models During Their First Year, 1976 Models During Their First Two Years, 1975 Models During Their First Three Years*, December 1977.

R78-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1978 Models*, June 1978.

R78-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1978 Models During Their First Year, 1977 Models During Their First Two Years, 1976 Models During Their First Three Years*, January 1979.

R79-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1979 Models*, June 1979.

R79-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1979 Models During Their First Year, 1978 Models During Their First Two Years, 1977 Models During Their First Three Years*, December 1979.

R80-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1980 Models*, June 1980.

R80-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1980 Models During Their First Year, 1979 Models During Their First Two Years, 1978 Models During Their First Three Years*, December 1980.

R81-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1981 Models*, July 1981.

R81-2 *Insurance Losses, Collision Coverages; Passenger Cars, Vans, Pickups, and Utility Vehicles; 1981 Models During Their First Year, 1980 Models During Their First Two Years, 1979 Models During Their First Three Years*, December 1981.

R82-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1982 Models*, July 1982.

R82-2 *Insurance Losses, Collision Coverages; Passenger Cars, Vans, Pickups, and Utility Vehicles; 1982 Models During Their First Year, 1981 Models During Their First Two Years; 1980 Models During Their First Three Years*, December 1982.

R83-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1983 Models*, June 1983.

V78-1 *Automobile Insurance Losses, Non-Commercial Collision Coverages; Variations by Make and Series, Vans, Pickups and Utility Vehicles; 1978 Models During Their First Year, 1977 Models During Their First Two Years*, February 1979.

V79-1 *Automobile Insurance Losses, Non-Commercial Collisions Coverages; Variations by Make and Series, Vans, Pickups and Utility Vehicles; 1979 Models During Their First Year, 1978 Models During Their First Two years*, April 1980.

V79-2 *Automobile Insurance Losses, Personal Injury Protection Coverages; Claim Frequency Results by Size of Claim for 1977, 1978, and 1979 Vans, Pickup Trucks, and Utility Vehicles*, October 1980.

V79-3 *Insurance Theft Losses; Vans, Pickups, and Utility Vehicles, 1979 Models*, May 1981.

V80-1 *Automobile Insurance Losses, Non-Commercial Collision Coverages; Variations by Make and Series, Vans, Pickups, and Utility Vehicles; 1980 Models During Their First Year, 1979 Models During Their First Two Years, 1978 Models During Their First Three Years*, December 1980.

V80-2 *Automobile Insurance Losses, Personal Injury Protection Coverages; Injury Claim Frequency Results by Size of Claim; Vans, Pickup Trucks, and Utility Vehicles, 1977-1980 Models*, September 1981.

I75-1 *Automobile Insurance Losses, Injury Coverages; Claim Frequency Results for 1974 and 1975 Models*, June 1976.

I75-2 *Automobile Insurance Losses, Percentage of Collision Claims with Associated Injury Claims for 1974 and 1975 Models*, March 1977.

I76-1 *Automobile Insurance Losses, Injury Coverages; Claim Frequency Results for 1974, 1975, and 1976 Models*, November 1977.

I76-2 *Automobile Insurance Losses, Injury Coverages; Claim Frequency Results for 1974, 1975, and 1976 Models*, September 1978.

I77-1 *Automobile Insurance Losses, Injury Coverages; Claim Frequency Results for 1977 Models*, September 1978.

I78-1 *Automobile Insurance Losses, Personal Injury Protection Coverages; Claim Frequency Results for 1977 and 1978 Models*, September 1979.

I79-1 *Automobile Insurance Losses, Personal Injury Protection Coverages; Claim Frequency Results by Size of Claim for 1977, 1978, and 1979 Models*, October 1980.

I80-1 *Automobile Insurance Losses, Personal Injury Protection Coverages; Claim Frequency Results by Size of Claim; 1978-1980 Models*, September 1981.

I81-1 *Insurance Losses, Personal Injury Protection Coverages; Passenger Cars, Vans, Pickups, and Utility Vehicles*, September 1982.

182-1 *Insurance Losses, Personal Injury Protection Coverages; Passenger Cars, Vans, Pickups, and Utility Vehicles,* September 1983.

A-1 *Automobile Insurance Losses, Collision Coverages; A Comparison of Results for 1972 and 1973 Models,* May 1974.

A-2 *Automobile Insurance Losses, Collision Coverages; Relationships Between Losses and Vehicle Density, 1972 and 1973 Models,* September 1974.

A-3 *Automobile Insurance Losses, Collision Coverages; A Comparison of Results for 1973, 1974 and 1975 Models,* July 1975.

A-4 *Automobile Insurance Losses, Collision Coverages; Relationships Between Losses and Vehicle Density, 1974 and 1975 Models,* December 1975.

A-5 *Automobile Insurance Losses, Collision Coverages; Relationships Between Losses and Vehicle Body Style, 1974 and 1975 Models,* December 1975.

A-6 *Automobile Insurance Losses, Collision Coverages; An Investigation of Relationships Between Losses and Engine Specifications, Using 1973 Models,* June 1976.

A-7 *Automobile Insurance Losses, Collision Coverages; Annual Increases and Seasonal Variations 1972, 1973, 1974 and 1975 Models,* June 1976.

A-8 *Automobile Insurance Losses, Injury Coverages; A Preliminary Comparison of Results for Volkswagen Rabbits with Passive and Active Seat Belts, 1975 and 1976 Models,* June 1977.

A-9 *Automobile Insurance Losses, Collision Coverages; A Comparison of Collision Claim Size Distributions for 1974, 1975, and 1976 Models,* November 1977.

A-10 *Automobile Insurance Losses, Injury Coverages; Comparisons of Claim Frequencies of Volkswagen Rabbits with Automatic and Manual Seat Belts, 1975, 1976, and 1977 Models,* June 1979.

A-11 *Automobile Insurance Losses, Collision Coverages; The Consistency of the Loss Experience of Specific Vehicles Produced in Several Years, 1975 to 1978 Models,* June 1979.

A-12 *Automobile Insurance Losses, Collision Coverages; An Assessment of the Effects of the Federal Safety Bumper Standard on the Losses for 1972 Through 1978 Models,* June 1980.

A-13 *Automobile Insurance Losses, Personal Injury Protection and Collision Coverages; The Effects of Car Size on Crash Losses, 1977-1980 Models,* May 1981.

A-14 *Automobile Insurance Losses, Personal Injury Protection and Collision Coverages; Comparisons of the Loss Experience of Two- and Four-Door Cars, 1978, 1979, and 1980 Models,* June 1981.

A-15 *Automobile Insurance Losses, Personal Injury Protection and Collision Coverages; Relationships Between Injury and Collision Losses and Engine Options for Selected 1977-1979 Compact Cars,* June 1981.

A-16 *Automobile Insurance Losses, Collision Coverages; The Frequency of Claims Involving Salvage; Subcompact and Compact Cars; 1980 Models,* January 1982.

A-17 *Insurance Losses, Comprehensive Coverages; Non-Crash Fire Losses; 1979-1980 Models,* February 1982.

A-18 *Insurance Losses, Theft Coverages; The Distribution of Theft Loss Payment Amounts; Passenger Cars, Vans Pickups, and Utility Vehicles; 1981 Models During Their First Year, 1980 Models During Their First Two Years; 1979 Models During Their First Three Years,* June 1982.

A-19 *Insurance Losses, Theft Coverages; A Comparison of the Theft Loss Experience of General Motors Passenger Cars With and Without Factory-Installed Theft Deterrent Systems; 1980-1981 Models,* January 1983.

A-20 *Insurance Losses, Collision Coverages, A Comparison of the Collision Loss Experience of Subaru Models with 5 and 2.5 MPH Bumpers* April 1983.

T79-1 *Automobile Insurance Theft Losses by Make and Series; 1979 Models,* June 1980.

T80-1 *Automobile Insurance Theft Losses by Make and Series; 1979 and 1980 Models,* April 1981.

T81-1 *Insurance Losses, Theft Coverages; Passenger Cars, Vans, Pickups, and Utility Vehicles; 1981 Models During Their First Year, 1980 Models During Their First Two Years, 1979 Models During Their First Three Years,* May 1982.

T82-1 *Insurance Losses, Theft Coverages; Passenger Cars, Vans, Pickups, and Utility Vehicles; 1982 Models During Their First Year, 1981 Models During Their First Two Years, 1980 Models During Their First Three Years,* May 1983.